

Arts, commerce and science college bodwad

Sem-IV

Class-TYBSc. Sub-Computer aided graphics

Multiple choice question

1 .What is the formula for calculating the slope 'm' of a line?

- 1 $m = dx / dy$
2. $m = dy / dx$
3. $y = mx + c$
4. None of the above

Answer: b. $m = dy / dx$

2 Which of the following is a line drawing algorithm?

- 1 Line equation algorithm
- 2 Digital Differential Analyzer (DDA) algorithm
- 3 Bresenham's algorithm
- 4 All of the above

Answer: d. All of the above

3 Which of the following statements is not true with respect to the Digital Differential Analyzer (DDA) algorithm?

- 1 It is an incremental method of scan conversion of line
- 2 In this method, calculation is performed at each step but by using the results of previous steps.
- 3 This algorithm can also be used to draw circle
- 4 None of the above

Answer: c. This algorithm can also be used to draw circle.

4 Which of the following options is not correct according to the definition of Bresenham's line drawing algorithm?

- 1 It gives a close approximation of points of line by determining. 2n-dimensional raster that should be selected.
- 3It is an incremental error algorithm.
It gives exact line points.
- 4None of the above

Answer: c. It gives exact line points

5 "The Digital Differential Analyzer (DDA) algorithm is an incremental method of scan conversion of line."

Based upon the above statement, determine whether the following condition is true or false.

"The DDA algorithm uses the results of previous step for determining the value of the next step."

1 True

2 False

Answer: a. True

6 _____ is a rigid body transformation that moves objects without deformation.

a) Rotation

b) Scaling

c) Translation

d) All of the mentioned

Answer: c

7 Polygons are translated by adding _____ to the coordinate position of each vertex and the current attribute setting.

a) Straight line path

b) Translation vector

c) Differences

d) Only b

View Answer

Answer: d

8. The basic geometric transformations are

a) Translation

b) Rotation

c) Scaling

d) All of the mentioned

Answer: d

9 The two-dimensional rotation equation in the matrix form is

[A] $P' = P + T$

[B] $P' = R * P$

[C] $P' = P * P$

[D] $P' = R + P$

Answer: $P' = R * P$

10 The rotation axis that is perpendicular to the xy plane and passes through the pivot point is known as

- [A] Rotation
- [B] Translation
- [C] Scaling
- [D] Shearing

Answer: Rotation

11 The process of cutting off the line which are outside the window are called

- [A] Shear
- [B] Reflection
- [C] Clipping
- [D] Clipping window

Answer: Clipping

12 The object space in which the application model is defined

- [A] Screen coordinate system
- [B] Clipping window or world window
- [C] World coordinate system
- [D] None of these

Answer: World coordinate system

13 The rectangle space in which the world definition of region is displayed are called

- [A] Screen coordinate system
- [B] Clipping window or world window
- [C] World coordinate system
- [D] None of these

Answer: Clipping window or world window

14 The space in which the image is displayed are called

- [A] Screen coordinate system
- [B] Clipping window
- [C] World coordinate system
- [D] None of these

Answer: Screen coordinate system

15 The rectangle portion of the interface window that defines where the image will actually appear are called

- [A] Transformation viewing
- [B] View port
- [C] Clipping window
- [D] Screen coordinate system

Answer: View port

16 The process of extracting a portion of a database or a picture inside or outside a specified region are called

- [A] Translation
- [B] Shear
- [C] Reflection
- [D] Clipping

Answer: Clipping

17 The process of mapping a world window in world coordinate system to viewport are called

- [A] Transformation viewing
- [B] View Port
- [C] Clipping window
- [D] Screen coordinate system

Answer: Transformation viewing

18 The transformation that produces a parallel mirror image of an object are called

- [A] Reflection
- [B] Shear
- [C] Rotation
- [D] Scaling

Answer: Reflection

19 The end point of polygon are called as

- [A] Edges
- [B] Vertices
- [C] Line
- [D] None of these

Answer: Vertices

20 The complex graphics operations are

- [A] Selection
- [B] Separation
- [C] Clipping
- [D] None of these

Answer: Clipping

21 The selection and separation of a part of text or image for further operation are called

- [A] Translation
- [B] Shear
- [C] Reflection
- [D] Clipping

Answer: Clipping

22 The transformation in which the dimension of an object are changed relative to a specified fixed point is called

- [A] Translation
- [B] Scaling
- [C] Rotation
- [D] Reflection

Answer: Scaling

23 The transformation in which an object is moved from one position to another in circular path around a specified pivot point is called

- [A] Translation
- [B] Scaling
- [C] Rotation
- [D] Reflection

Answer: Rotation

24 The transformation in which an object is moved in a minimum distance path from one position to another is called

- [A] Translation
- [B] Scaling
- [C] Rotation
- [D] Reflection

Answer: Translation

25 What is the primary use of clipping in computer graphics?

- a) adding graphics
- b) removing objects and lines
- c) zooming
- d) copying

Answer: b

26 A polygon can be clipped using clipping operations.

- a) True
- b) False

Answer: a

27 Which vertex of the polygon is clipped first in polygon clipping?

- a) top right
- b) bottom right
- c) bottom left
- d) top left

Answer: d

28 A bitmap is collection of _____ that describes an image.

- a) bits
- b) colors
- c) algorithms
- d) pixels

Answer: d

29 We can change the size or resize the bitmap image.

- a) True
- b) False

Answer: b

30 In line clipping, the portion of line which is _____ of window is cut and the portion that is _____ the window is kept.

- a) outside, inside
- b) inside, outside
- c) exact copy, different
- d) different, an exact copy

Answer: a

31 Yellow, Green

An RGB color system with 24 bits as storage per pixel is known as

- a. Color CRT
- b. True-color system
- c. RGB monitor
- d. Color- Depth

Answer: (b).

32 The types of hidden surface removal algorithm are

- a. Depth comparison, Z-buffer, back-face removal
- b. Scan line algorithm, priority algorithm
- c. BSP method, area subdivision method
- d. All of these

Answer: (d).

33 Which surface algorithm is based on perspective depth ?

- a. Depth comparison
- b. Z-buffer or depth-buffer algorithm
- c. subdivision method
- d. back-face removal

Answer: (b).

34 The scan line coherence algorithm was developed by

- a. Wylie

- b.Evans
- c.Cat mull
- d.Both a & b

Answer: (d).

35 A process with the help of which images or picture can be produced in a more realistic way is called

- a.Fractals
- b.Quad-tree
- c.Rendering
- d.None of these

Answer: (c).

36 Which of the following color graphics display adapter has the highest resolution?

- (A) VGA
- (B) CGA
- (C) SVGA
- (D) HGA

Ans: C

37 A graphics editor processes

- (A) Picture
- (B) Text
- (C) Both(a) and (b)
- (D) None of these

Ans: A

38 Computer-aided design (cad) programs are usually used to develop

- (A) Graphics for a specialized area such as engineering
- (B) Business graphics
- (C) Tutorial programs for schools

(D) All of these

Ans: A

39 Powerful work stations are used 3-D graphics, what are the main requirements of 3D work?

(A) Higher resolution displays

(B) Lot of calculation

(C) Large memory

(D) All of these

Ans: D

40 Computer graphics software allows the user to create

(A) Pie graphs

(B) Bar graphs

(C) Line graphs

(D) All of these

Ans: D

41 Which of the following is not considered one of the main categories of computer graphics?

(A) Computer-aided design

(B) Bar graphics

(C) Presentation graphics

(D) Analytical graphics

Ans: B

42 . A two dimensional rotation is applied to an object by

- a) Repositioning it along with straight line path
- b) Repositioning it along with circular path
- c) Only b
- d) Any of the mentioned

Answer: c

43 To generate a rotation , we must specify

- a) Rotation angle Θ
- b) Distances dx and dy
- c) Rotation distance
- d) All of the mentioned

Answer: a

44 The transformation that is used to alter the size of an object is

- a) Scaling
- b) Rotation
- c) Translation
- d) Reflection

Answer: a

45 The two-dimensional scaling equation in the matrix form is

- a) $P' = P + T$
- b) $P' = S * P$
- c) $P' = P * R$
- d) $P' = R + S$

Answer: b

46 If the scaling factors values s_x and $s_y < 1$ then

- a) It reduces the size of object
- b) It increases the size of object
- c) It stunts the shape of an object
- d) None

Answer: a

47 If the scaling factors values s_x and s_y are assigned to the same value then

- a) Uniform rotation is produced
- b) Uniform scaling is produced
- c) Scaling cannot be done
- d) Scaling can be done or cannot be done

Answer: b

48 If the scaling factors values s_x and s_y are assigned to unequal values then

- a) Uniform rotation is produced
- b) Uniform scaling is produced
- c) Differential scaling is produced
- d) Scaling cannot be done

Answer: c

49 If the value of $s_x=1$ and $s_y=1$ then

- a) Reduce the size of object
- b) Distort the picture
- c) Produce an enlargement
- d) No change in the size of an object

Answer: d

50 We translate a two-dimensional point by adding

- a) Translation distances
- b) Translation difference
- c) X and Y
- d) Only a

Answer: d

51 The translation distances (dx , dy) is called as

- a) Translation vector
- b) Shift vector
- c) Both a and b
- d) Neither a nor b

Answer: c

52 .The two-dimensional translation equation in the matrix form is

- a) $P' = P + T$
- b) $P' = P - T$
- c) $P' = P * T$
- d) $P' = p$

Answer: a

53 _____ is a rigid body transformation that moves objects without deformation.

- a) Rotation
- b) Scaling

- c) Translation
- d) All of the mentioned

Answer: c

54 Polygons are translated by adding _____ to the coordinate position of each vertex and the current attribute setting.

- a) Straight line path
- b) Translation vector
- c) Differences
- d) Only b

Answer: d

55 Cohen-Sutherland clipping is an example of _____

- a) polygon clipping
- b) text clipping
- c) line clipping
- d) curve clipping

Answer: c

56 The Cohen-Sutherland algorithm divides the region into _____ number of spaces.

- a) 8
- b) 6
- c) 7
- d) 9

Answer: d

57 What is the name of the small integer which holds a bit for the result of every plane test?

- a) setcode
- b) outcode
- c) incode
- d) bitcode

Answer: b

58 An outcode can have _____ bits for two-dimensional clipping and _____ bits for three-dimensional clipping.

- a) 4,6
- b) 6,8
- c) 2,4
- d) 1,3

Answer: a

59 The centre region of the screen and the window can be represented as _____

- a) 0000
- b) 1111
- c) 0110
- d) 1001

Answer: a

60 The Cohen–Sutherland algorithm can be only be used on a rectangular clip window.

- a) True
- b) False

Answer: a

61 If both codes are 0000, (bitwise OR of the codes yields 0000) line lies _____ the window.

- a) completely outside
- b) half inside half outside
- c) completely inside
- d) can't say anything

Answer: c

62 The 4-bit code of top-left region of the window is _____

- a) 1001
- b) 1100
- c) 0101
- d) 1010

Answer: a

63 The 4-bit code of bottom-right region of the window is _____

- a) 1001
- b) 0101
- c) 1010
- d) 0110

Answer: d

64 If the logical AND of the endpoint codes is NOT zero, the line can be trivially accepted.

- a) True

b) False

Answer: b

65 The logical _____ of the endpoint codes determines if the line is completely inside the window.

- a) AND
- b) OR
- c) NOT
- d) NOR

Answer: b

66 The object space or the space in which the application model is defined is called _____

- a) World co-ordinate system
- b) Screen co-ordinate system
- c) World window
- d) Interface window

Answer: a

67 What is the name of the space in which the image is displayed?

- a) World co-ordinate system
- b) Screen co-ordinate system
- c) World window
- d) Interface window

Answer: b

68 What is the rectangle in the world defining the region that is to be displayed?

- a) World co-ordinate system
- b) Screen co-ordinate system
- c) World window
- d) Interface window

Answer: c

69 The window opened on the raster graphics screen in which the image will be displayed is called _____

- a) World co-ordinate system
- b) Screen co-ordinate system
- c) World window
- d) Interface window

Answer: d

70 The process of mapping a world window in World Coordinates to the Viewport is called Viewing transformation.

- a) True
- b) False

Answer: a

71 By changing the dimensions of the viewport, the _____ and _____ of the objects being displayed can be manipulated.

- a) Number of pixels and image quality
- b) X co-ordinate and Y co-ordinate
- c) Size and proportions
- d) All of these

Answer: c

72 view is selected by specifying a sub-area of the _____ picture area.

- a) half
- b) total
- c) full
- d) quarter

Answer: b

73 Co-ordinates are ranging according to the screen resolution.

- a) True
- b) False

Answer: a

74 Any convenient co-ordinate system or Cartesian co-ordinates which can be used to define the picture is called _____

- a) spherical co-ordinates
- b) vector co-ordinates
- c) viewport co-ordinates
- d) world co-ordinates

Answer: d

75 Which of the following co-ordinates are NOT used in 2d viewing transformation?

- a) modelling co-ordinates
- b) viewing co-ordinates
- c) vector co-ordinates

d) device co-ordinates

Answer: c

76 In polygon clipping, line clipping algorithms can be used.

- a) True
- b) False

Answer: a

77 What is the name of the space in which the image is displayed?

- a) World co-ordinate system
- b) Screen co-ordinate system
- c) World window
- d) Interface window

Answer: b

78 What is the rectangle in the world defining the region that is to be displayed?

- a) World co-ordinate system
- b) Screen co-ordinate system
- c) World window
- d) Interface window

Answer: c

79 Which devices provides positional information to the graphics system ?

- a) Input devices
- b) Output devices
- c) Pointing devices
- d) Both a and c

Answer: d

80 The number of pixels stored in the frame buffer of a graphics system is known as

- a) Resolution
- b) Depth
- c) Resalution
- d) Only a

Answer: d

81 In graphical system, the array of pixels in the picture are stored in

- a) Memory
- b) Frame buffer

- c) Processor
- d) All of the mentioned

Answer: a

82 Heat supplied to the cathode by directing a current through a coil of wire is called

- a) Electron gun
- b) Electron beam
- c) Filament
- d) Anode and cathode

Answer: c

83 The maximum number of points that can be displayed without overlap on a CRT is referred as

- a) Picture
- b) Resolution
- c) Persistence
- d) Neither b nor c

Answer: b

84 _____ stores the picture information as a charge distribution behind the phosphor-coated screen.

- a) Cathode ray tube
- b) Direct-view storage tube
- c) Flat panel displays
- d) 3D viewing device

Answer: b

85 In which system, the Shadow mask methods are commonly used

- a) Raster-scan system
- b) Random-scan system
- c) Only b
- d) Both a and b

Answer: a

86 The process of digitizing a given picture definition into a set of pixel-intensity for storage in the frame buffer is called

- a) Rasterization
- b) Encoding
- c) Scan conversion

d) True color system

Answer: c

87 Which display devices allows us to walk around an object and view it from different sides.

- a) Direct view storage tubes
- b) Three-dimensional devices
- c) Flat panel display devices
- d) Plasma panel display devices

Answer: b

88 Random-scan system mainly designed for

- a) Realistic shaded screen
- b) Fog effect
- c) Line-drawing applications
- d) Only b

Answer: c

89 The primary output device in a graphics system is_____

- a) Scanner
- b) Video monitor
- c) Neither a nor b
- d) Printer

Answer: b

90 On a black and white system with one bit per pixel, the frame buffer is commonly called as

- a) Pix map
- b) Multi map
- c) Bitmap
- d) All of the mentioned

Answer: c

91 Aspect ratio means

- a) Number of pixels
- b) Ratio of vertical points to horizontal points
- c) Ratio of horizontal points to vertical points
- d) Both b and c

Answer: d

92 The number of pixels stored in the frame buffer of a graphics system is known as

- a) Resolution
- b) Depth
- c) Resalution
- d) Only a

Answer: d

93 A dotted line can be displayed by generating

- a) Very short dashes with spacing equal to and greater than dash size
- b) Very long dashes with spacing equal to or greater than dash size
- c) Very short dashes with spacing equal to and greater than dash size
- d) Do

Answer: c

94 Which of the following is not a line-type?

- a) Dashed line
- b) Dark line
- c) Dotted line
- d) Only b

Answer: d

95 The algorithm which displays line-type attributes by plotting pixel spans is

- a) Raster line algorithm
- b) Raster scan algorithm
- c) Random line algorithm
- d) Random scan algorithm

Answer: a

96 Pixel mask means

- a) A string containing only 1;s
- b) A string containing only 0's
- c) A string containing 1 and 0
- d) A string containing 0 and 0

Answer: c

97 A heavy line on a video monitor could be displayed as

- a) Adjacent perpendicular lines

- b) Adjacent parallel lines
- c) Both a and b
- d) Neither a nor b

Answer: b

98 To set the line-width attribute the following command is used.

- a) SETLINEWIDTHSCALEFACTOR (lw)
- b) Setlinewidth()
- c) Setlinewidthscalefacto (lw)
- d) setLineWidthScaleFactor (lw,)

Answer: d

99 We can adjust the shape of the line ends to give them a better appearance by using

- a) Line spacing
- b) More dots
- c) Line caps
- d) Round cap

Answer: c

100 Thick line drawn with

- a) Butt caps
- b) Round caps
- c) Projecting square caps
- d) All of the mentioned

Answer: d